

In the claims

Please cancel claims 1-11 of the international application, and add the following new claims.

1.-11. (cancelled)

12. (new) A high-resolution magnetic encoder system comprising:

a magnetic resistive sensor; and,

a fixed suspension to which the magnetic resistive sensor is mounted above a magnetic medium,

wherein the sensor is adapted to perform a relative movement with respect to and in close contact to a surface of the magnetic medium.

13. (new) The high-resolution magnetic encoder system of claim 12, further comprising a mechanism to which the fixed suspension is attached.

14. (new) The high-resolution magnetic encoder system of claim 13, wherein the mechanism is a substrate.

15. (new) The high-resolution magnetic encoder system of claim 14, wherein the substrate is an electronic board.

16. (new) The high-resolution magnetic encoder system of claim 13, wherein the mechanism is a housing.

17. (new) The high-resolution magnetic encoder system of claim 12, wherein the magnetic medium is protected by an overcoat layer.

18. (new) The high-resolution magnetic encoder system of claim 17, wherein the overcoat layer is one of DLC,  $C_xN_y$ ,  $BN_x$ , cBN,  $B_xC_y$ ,  $B_x-C_y-N_z$  gradient layer,  $SiN_x$ , SiC, TiN, WC,  $AlO_x$ .

19. (new) The high-resolution magnetic encoder system of claim 12, wherein the magnetic medium is a magnetic layer deposited on a rotating disk.

20. (new) The high-resolution magnetic encoder system of claim 12, wherein the magnetic medium is a planar disk having magnetic encoder features that are readable by the magnetic resistive sensor.

21. (new) The high-resolution magnetic encoder system of claim 12, wherein the magnetic resistive sensor is a read/write magnetic head.

22. (new) The high-resolution magnetic encoder system of claim 12, wherein the magnetic resistive sensor is a Giant Magnetic-Resistive (GMR) sensor.

23. (new) The high-resolution magnetic encoder system of claim 12, wherein the magnetic resistive sensor is a Tunneling Magnetic-Resistive (TMR) sensor.

24. (new) The high-resolution magnetic encoder system of claim 12, wherein the system is encapsulated.

25. (new) A high-resolution magnetic encoder system comprising:

magnetic means for sensing a surface of a magnetic medium with respect to which the magnetic means performs a relative movement and with which the magnetic means is in close contact; and,

suspension means for suspending the magnetic means in a fixed manner above the magnetic medium.

26. (new) The high-resolution magnetic encoder system of claim 25, wherein the magnetic means comprises one of a Giant Magnetic-Resistive (GMR) sensor and a Tunneling Magnetic-Resistive (TMR) sensor.

27. (new) A method for fabricating a magnetic encoder disk comprising:

providing a servo pattern within a contact stencil mask;

transferring the servo pattern into a latent magnetic pattern in a magnetic coating of the magnetic encoder disk; and,

activating the latent magnetic pattern.

28. (new) The method of claim 27, wherein transferring the servo pattern into the latent magnetic pattern comprises employing ion irradiation.

29. (new) The method of claim 27, wherein activating the latent magnetic pattern comprises applying a magnetic field saturating the magnetic encoder disk in one direction.

30. (new) The method of claim 29, wherein activating the latent magnetic pattern further comprises reversing features irradiated through the contact stencil mask.

31. (new) The method of claim 30, wherein the features as reversed are read by a magnetic read sensor in contact with the magnetic encoder disk.